

Claims

What is claimed is:

1. A data storage apparatus comprising:
 - a drive with an actuator carrying a head for reading or writing data from a storage medium and a storage medium rotator for rotating a storage medium;
 - a removable cartridge containing the storage medium, the removable cartridge having an access path to allow the head of the actuator to be moved back and forth into proximity with the storage medium while the storage medium is rotated by the storage medium rotator when the removable cartridge is mounted in the drive,
 - where rotation of the storage medium by the rotator induces an air flow over the storage medium,
 - where the location of the actuator in the air flow creates a high pressure zone in an upstream direction from the actuator and a low pressure zone in a downstream direction from the actuator
 - induction vent disposed in the high pressure zone
 - exhaust vent disposed in the low pressure zone,
 - passage extending between the induction vent and the exhaust vent, and
 - air processing unit disposed in the passage such that air passing through the passage between the induction vent and the exhaust vent is processed by the air processing unit.

2. A data storage apparatus comprising:
 - a drive with an actuator carrying a head for reading or writing data from a storage medium and a storage medium rotator for rotating the storage medium;
 - a removable cartridge containing the storage medium, the storage medium being circular with a center and a periphery, and an access path to allow the head of the actuator to be moved back and forth into proximity with the storage medium while the storage medium is rotated by the storage medium rotator around its center when the removable cartridge is mounted in the drive,
 - where the rotation of the storage medium induces an air flow over and beyond the rotating medium and the location of the actuator creates a wake region extending in a downstream direction from the actuator to create a dynamic pressure loss in the wake region,
 - first air processing unit located in the air flow and not in the wake region when the actuator head is positioned at a location adjacent the center of rotating medium,
 - second air processing unit located in the air flow and not in the wake region when the actuator head is positioned at a location adjacent the periphery of rotating medium.
3. A data storage apparatus as in Claim 2 where the first and second air processing units are located in the removable cartridge.
4. A data storage apparatus as in Claim 2 where the first and second air processing units are located in the drive.
5. A data storage apparatus as in Claim 2 where the first and second air processing units are located in the removable cartridge and additional first and second air processing units are located in the drive.
6. A data storage apparatus as in Claim 2 wherein there is more than one of the first air processing unit each spaced apart from each³³ another.

7. A data storage apparatus as in Claim 2 wherein there is more than one of the second air processing unit each spaced apart from each another.

8. A data storage apparatus comprising:
a drive with an actuator carrying a head for reading or writing data from a storage medium and a storage medium rotator for rotating the storage medium:

a removable cartridge having
a circular storage media with a center, a periphery, and a data storage surface;
and
a housing,
the housing structured to provide an access path to allow the head of the actuator to be moved back and forth into proximity with the data storage surface of the media and allow the storage medium to be rotated by the storage medium rotator around the center when the removable cartridge is mounted in the drive,
the housing having a housing wall that is generally parallel to the data storage surface where the rotation of the storage medium induces an air flow over the data storage surface;

air processing unit located across the air flow in at least part of the region between the center and the periphery of the rotating medium and between the data storage surface of the medium and the parallel housing wall.

9. A data storage apparatus as in Claim 8 wherein the air processing unit extends between a location near the center and a location adjacent the periphery of the rotating medium and extends between a location adjacent to the data storage surface of the medium and a location adjacent to the cartridge wall.

10. A data storage apparatus as in Claim 8 wherein the air processing unit is structured with a leading edge directed in the direction into the air flow at the location adjacent the surface of the medium.

11. A data storage apparatus as in Claim 8 wherein the air processing unit is angled relative to the air flow to increase particle capturing surface area that is extending across the air flow.